



Congratulations on purchasing your new VCR. Spare a few moments to read this instruction manual to get better results, and to avoid any costly mistakes.

WARNING : DANGEROUS VOLTAGE INSIDE

WARNING : TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

- ☐ The POWER button does not completely shut off the mains power from the unit, but switches operating current on or off only.
- ☐ The rating plate is on the rear of the unit.

When the equipment is installed in a cabinet or a shelf, make sure that it has sufficient space on all sides to allow for ventilation (10 cm or more on both side, on top and at the rear.)

When discarding batteries, environmental problems must be considered and the local rules or laws governing the disposal of these batteries must be followed strictly.

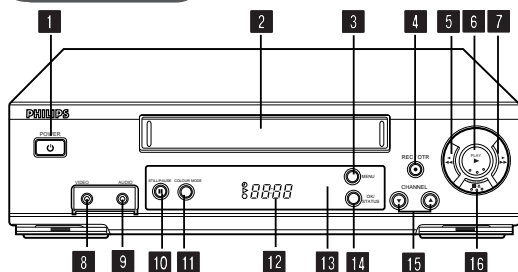
Failure to heed the following precautions may result in damage to the VCR, remote control or video cassette.

1. **DO NOT place the VCR . . .**
 - ... in an environment prone to extreme temperatures or humidity.
 - ... in direct sunlight.
 - ... in a dusty environment.
 - ... in an environment where strong magnetic fields are generated.
 - ... on a surface that is unstable or subject to vibration.
2. **DO NOT block the VCR's ventilation openings or holes.**
(If the ventilation openings or holes are blocked by a newspaper or cloth, etc., the heat may not be able to get out.)
3. **DO NOT place heavy objects on the VCR or remote control.**
4. **DO NOT place anything which might spill on top of the VCR or remote control.**
If water or liquid is allowed to enter this equipment, fire or electric shock may be caused.)
5. **DO NOT expose the apparatus to dripping or splashing.**
6. **DO NOT use this equipment in a bathroom or places with water. Also DO NOT** place any containers filled with water or liquids (such as cosmetics or medicines, flower vases, potted plants, cups, etc.) on top of this unit.
7. **DO NOT place any naked flame sources, such as lighted candles, on the apparatus.**
8. **AVOID violent shocks to the VCR during transport.**

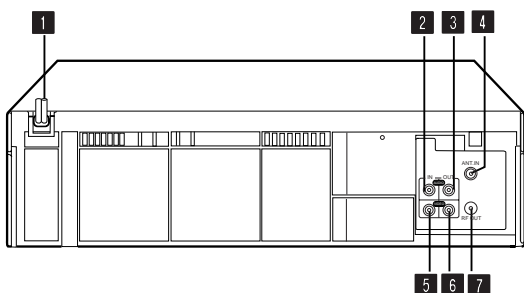
- ☐ SmartPicture
- ☐ Child Lock
- ☐ Automatic Operations
- ☐ Index Search
- ☐ One Touch Recording
- ☐ On Screen Display
- ☐ Timer Recording
- ☐ Digital Studio Picture Control

Description of Controls

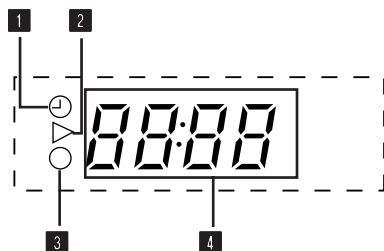
Front panel



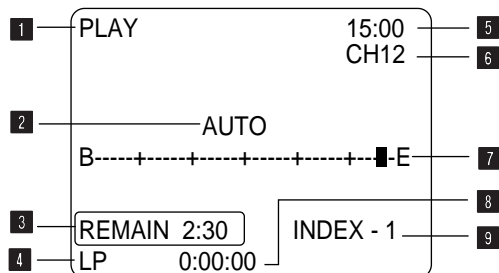
Rear panel



Display Window



On-Screen Display



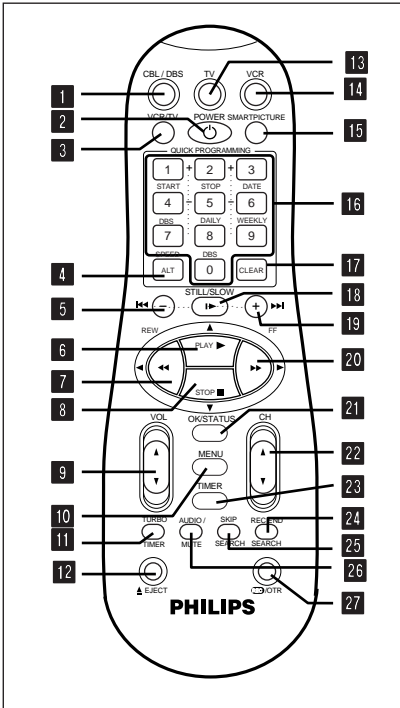
- 1 POWER button (P.12)
- 2 Cassette Compartment
- 3 MENU button
- 4 REC/OTR button (P.7)
- 5 ◀◀ (Rewind) button (P.5, P.7, P.10)
- 6 PLAY ▶ button (P.7, P.8, P.9)
- 7 ▶▶ (Fast Forward) button (P.5, P.7, P.10, P.12)
- 8 VIDEO input jack (P.14)
- 9 AUDIO input jack (P.14)
- 10 STILL/PAUSE ■ button (P.10)
- 11 COLOUR MODE button (P.7)
- 12 Display Window (see below)
- 13 IR (infrared) remote sensor
- 14 OK/STATUS button (P.4, P.5, P.9)
- 15 CHANNEL ▲ / ▼ button (P.4, P.5, P.7, P.8, P.10, P.12, P.14)
- 16 STOP/EJECT ■/▲ button (P.4, P.7, P.9)

- 1 AC power cord
- 2 AUDIO IN (input) jack (P.4, P.14)
- 3 AUDIO OUT (output) jack (P.4, P.14)
- 4 ANT. (antenna) IN (input) terminal (P.4)
- 5 VIDEO IN (input) jacks (P.4, P.14)
- 6 VIDEO OUT (output) jack (P.4, P.14)
- 7 RF OUT (output) terminal (to TV) (P.4)

- 1 ⌚ (Timer) indicator (P.12)
- 2 PLAYBACK indicator
- 3 RECORDING indicator
- 4 Digital clock/Channel/Tape Speed indicator

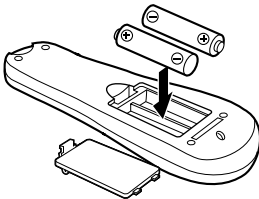
- 1 Operation mode
- 2 SmartPicture Setting
- 3 Remaining tape length
- 4 Tape speed
- 5 Current time
- 6 Channel Number
- 7 Tape position indicator
- 8 Time counter
- 9 Index Number

Remote Control



To insert the batteries:

Install two AA batteries R6 (SUM-3)/AA - matching the polarity indicated inside the battery compartment.



CAUTION

On Battery Replacement

Do not mix old and new batteries.
(Also never mix alkaline batteries with manganese batteries.)

- 1 CBL/DBS button
- 2 POWER button (P.7, P.12)
- 3 VCR/TV button (P.7)
- 4 ALT/SPEED button (P.7, P.12)
- 5 STILL/SLOW - / button (P.8)
- 6 PLAY / button (P.5, P.7, P.8)
- 7 (REWIND)/ button (P.5, P.7)
- 8 STOP / button (P.5, P.7)
- 9 VOL (volume) / button
- 10 MENU button (P.5)
- 11 TURBO TIMER button (P.13)
- 12 EJECT button (P.7)
- 13 TV button
- 14 VCR button
- 15 SMARTPICTURE button (P.9)
- 16 Number buttons (0, 1, 2, 3, 4, 5, 6, 7, 8 and 9) (P.12)
- 17 CLEAR button (P.6, P.8, P.12)
- 18 STILL/SLOW button (P.7, P.8)
- 19 STILL/SLOW + / button (P.8)
- 20 (Fast Forward) / button (P.7)
- 21 OK/STATUS button
- 22 CH (channel) / button (P.4, P.5, P.10, P.14)
- 23 TIMER button (P.12)
- 24 REC (ord) END SEARCH button (P.9)
- 25 SKIP SEARCH button (P.8)
- 26 AUDIO/MUTE button
- 27 REC (record)/ OTR button (P.7, P.10, P.14)

Note:

Button 1 does not function on this VCR.

To Operate your TV.

You can use this remote control to operate some of PHILIPS TV's. To operate other manufacturer's TV, you have to set the code. Refer to page 15 for setting code instructions. Followings are the operative buttons.

TV: Makes the remote control ready for operating the TV. Make sure you press this button before pressing the other operative buttons.

POWER: Turns the TV on or off.

VCR/TV: Selects TV mode or Auxiliary mode at TV.

ALT (for PHILIPSTV only): Goes back to the previously selected channel on TV.

VOL▲▼: Changes the TV volume.

CH▲▼: Changes the TV channels.

▲▼, MENU (for PHILIPS TV only): Operates the TV menu.

OK/STATUS - For PHILIPS TV: Displays the on- screen information. For other manufacturer's TV; functions as an ENTER button after pressing the number buttons while selecting channels.

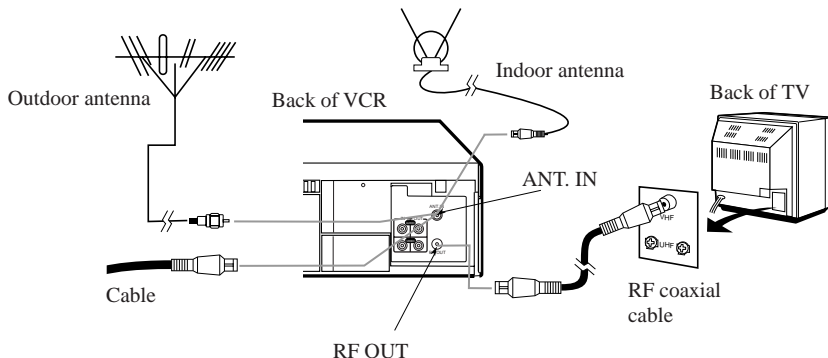
AUDIO/MUTE: Turns off the TV sound.

NUMBER buttons: To select channels on TV.

Getting Connected Up

VCR to TV Connection Using RF Cable

- 1 Disconnect the antenna cable from the TV.
- 2 Connect the antenna cable to the ANT. IN terminal on the back of the VCR.
- 3 Connect the VCR to the TV using the RF coaxial cable.
- 4 Plug the AC power cords of the VCR and TV into the AC outlets.



CAUTION

Do not plug the AC power cords until all connections are completed.

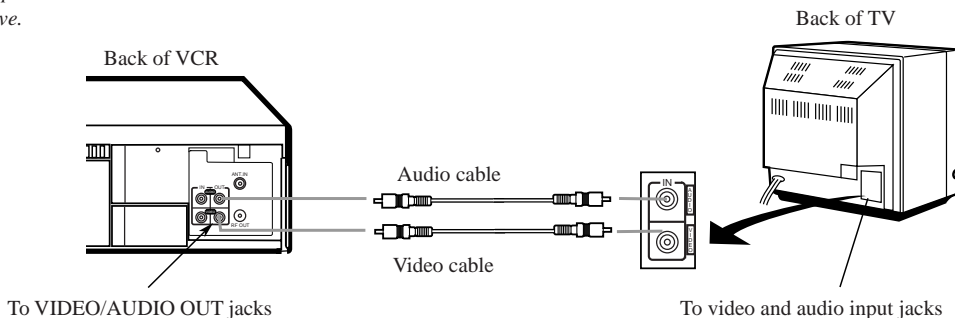
To watch a picture from this VCR on the TV, select UHF E36 channel (video channel of this VCR when shipped from the factory).
If you want to change video channel, see “Setting the Video Channel.” (P.5)

VCR to TV Connection Using AUDIO/VIDEO Cable

If your TV has audio/video connectors, complete the connection below to get better pictures and sounds when playing back a tape. To watch a picture from this VCR on the TV, select the AV mode on the TV.

Note;

Even if you are using this AV connection, you must also complete the RF connection above.



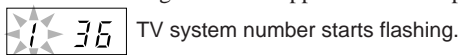
Setting Up

Setting the Video Channel

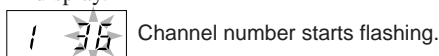
This VCR is designed to send picture and sound signal on UHF channel E36 to the TV, through the RF coaxial cable.

If you want to change this video channel (E36) to another channel (between E28 to E60), follow the procedure below before turning on the VCR for the first time.

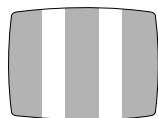
- 1 **Make sure the VCR is turned off and no cassette is inserted.**
- 2 Turn on the TV, and tune it to any channel (UHF 28 to 60) you want to use as the video channel on the TV.
 - Select a channel not used in your area.
- 3 Press STOP/EJECT ■/▲ on the front panel for more than 5 seconds.
The following indication appears on the display.



- 4 Press CH ▲/▼ on the front panel to select an appropriate TV system number for your area.
 - 1: For B/G. (For West Europe, ASEAN countries, New Zealand)
 - 2: For D/K. (For China, Russia, East Europe)
 - 3: For I. (For Hong Kong, South Africa, United Kingdom)
- 5 Press OK/STATUS.
The channel number starts flashing on the display.



- 6 Press CH ▲/▼ on the front panel to select the channel you have tuned on the TV as the video channel in step 2.



Test signal
(two vertical white bars)

- 7 Press OK/STATUS to finish the video channel setting.

To watch a picture from this VCR on the TV, select the same channel you have selected as the video channel (in step 2 above) on the TV.

If you use only external video input (AV) mode to watch the picture from this VCR:

You can turn off the video channel output. To turn off the video output channel, press CH▼ until "—" appears on the channel number position.

Menu Operations

Before operating the VCR, be familiar with the menu operations first because most of the features built into the VCR can be available only on the menus.

- 1 Press VCR on the remote control.
 - When using the buttons on front panel, skip this step.
- 2 Press MENU to display the main menu screen.
- 3 Press PLAY▲ or STOP▼ to select a desired feature on the menu, then press OK/STATUS.
- 4 When you select a feature, go to the section in this manual and follow the instructions described there.

To go back to the previous menu screen, press REW◀.

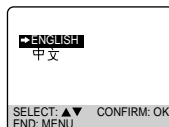
To change the setting of a menu item, press FF▶. Press MENU to exit.

Initial Set Up

For the first time you turn on this VCR, some basic settings must be done first before going on to further operations.

1 Select the Language

- 1 Press POWER.
The language selection screen appears.
- 2 Press PLAY▲ or STOP▼ to select either "ENGLISH", or "中文" (Chinese).
- 3 Press OK/STATUS.



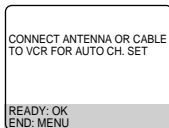
2 Setting the Clock/Date

- 1 Press PLAY▲ or STOP▼ to set the time. Each time you press the button, the set time changes by one-minute intervals.
Press and hold the button to change time by 30-minute intervals.
When the time is correct, press OK/STATUS.
- 2 Press PLAY▲ or STOP▼ to set the date. Each time you press the button, the date changes in one-day increments. Press and hold the button to change dates in 15-day increments. When the date is correct, press OK/STATUS.
- 3 Press PLAY▲ or STOP▼ to set the year. Each time you press the button, the year changes by one-year intervals. Press and hold the button to change years rapidly. When the year is correct, press OK/STATUS.



4 Press MENU.

The message on the right will appear.



3 Select TV System

1 Press OK/STATUS. The TV system selecting menu appears on the TV.



2 Press PLAY▲ or STOP▼ to select the appropriate TV system of your residential area.

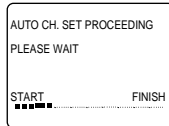
B/G: For West Europe, ASEAN countries, Australia, New Zealand.

D/K: For China, Russia, East Europe.

I: For Hong Kong, South Africa, United Kingdom.

4 Start Auto Programming

Press OK/STATUS. Auto programming starts and the message on the right appears on the TV.

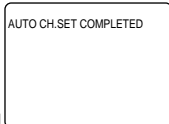


When the auto programming is completed

The message on the right appears on the TV, and the lowest channel will be tuned in.

Press CH▲ or ▼ to change channels on the VCR.

You have now completed the initial setting.



If you stop the initial setup procedure while it is proceeding:

The VCR enters the initial setup mode again the next time you turn on the VCR.

Initial setup will not start in the following cases:

- If there is a tape inserted.
- If any of the initial setup procedures is finished manually.

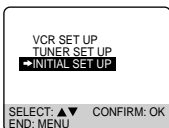
To Reset the Time or Language

You can always change the time and language setting after you completed the initial set up.

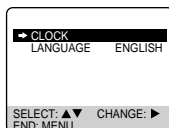
1 Press VCR.

2 Press MENU.

3 Press PLAY▲ or STOP▼ to select “INITIAL SET UP” then press OK/STATUS.



4 Press PLAY▲ or STOP▼ to select “SET CLOCK” or “LANGUAGE”, depending on which setting you want to change.



5 To change clock/date:

Repeat step ② (Setting the Clock/Date) of “Initial Set Up” on page 5.

To change language:

Press FF► repeatedly to choose your preferred language English or 中文.

6 Press MENU to exit.

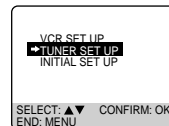
To Reset the Channels

If you want to re-do the auto programming, follow the procedure below;

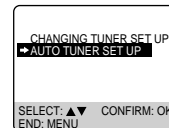
1 Press VCR.

2 Press MENU.

3 Press PLAY▲ or STOP▼ to select “TUNER SET UP” then press OK/STATUS.



4 Press PLAY▲ or STOP▼ to select “AUTO TUNER SET UP” then press OK/STATUS.



5 Press PLAY▲ or STOP▼ to select the appropriate TV system [(BG, DK, I)] of your residential area.

6 Press OK/STATUS. Auto programming starts. When it ends, programmed channels, frequencies and TV systems are shown on the display.

7 Press MENU to exit.

To Delete or Edit Receivable Channels

1 Press VCR.

2 Press MENU.

3 Press PLAY▲ or STOP▼ to select “TUNER SET UP”, then press OK/STATUS.

4 Press PLAY▲ or STOP▼ to select “CHANGING TUNER SET UP”, then press OK/STATUS. The programmed channel information list appears.

CH	FREQ	SYS	CH	FREQ	SYS
01	150	BG	07	229	BG
02	169	BG	08	237	BG
03	195	BG	09	355	BG
04	205	BG	10	365	BG
05	213	BG	11	374	BG
06	221	BG	12	384	BG

5 Press PLAY▲ or STOP▼ until the desired channel setting flashes.

5.1: **TO DELETE UNWANTED CHANNELS:** Press CLEAR. Repeat this step until you delete all unwanted channels.

** If you have accidentally deleted a channel, press **REW** ◀.*

5.2: TO EXCHANGE CHANNEL POSITION:

Press **OK/STATUS** **once** so that the channel number flashes. Using the number button on the remote control, enter the other channel number that you want to exchange with, then press **OK/STATUS**.

5.3: TO FINE-TUNE CHANNELS

Press **OK/STATUS** **twice** so that the frequency indication flashes. Press **PLAY** ▲ or **STOP** ▼ to fine-tune the station until you get the best possible picture, then press **OK/STATUS**.

5.4: TO CHANGE THE TV SYSTEM:

This is necessary if no sound comes out on the channel.

Press **OK/STATUS** **three times** so that the TV system indication flashes. Press **PLAY** ▲ or **STOP** ▼ to select the appropriate TV system (BG, DK, I) so that the sound comes out, then press **OK/STATUS**.

6 Press **MENU** to exit.

Manual Channel Setting

1 Repeat steps 1-4 of “To delete or edit receivable channels” on the left column.

2 Press **PLAY** ▲ or **STOP** ▼ until a vacant channel in which you want to store a new channel starts flashing, then press **OK/STATUS**.

3 Press **PLAY** ▲ or **STOP** ▼ to select the search starting band, then press **OK/STATUS**.
VHF L: Starts searching from the VHF L band.
VHF H: Starts searching from the VHF H band.
UHF: Starts searching from the UHF band.
Searching starts, and when a station is tuned in, searching stops and the tuned frequency is shown on the TV.

4 Press **PLAY** ▲ or **STOP** ▼ to select “STORE CHANNEL”, then press **OK/STATUS**.

The programmed channel information list appears again with the settings of the newly tuned channel flashing.

If you do not want to store the channel, select “CONTINUE SEARCH”, then press **OK/STATUS** so that the search starts again.

5 Press **MENU** to exit.



Selecting Colour Mode

Before using the VCR, you need to set the colour mode both for recording and playback.

Press **COLOUR MODE** on the front panel for more than 2 seconds. The current setting will appear on the screen for about 5 seconds. While the current setting appears, press **COLOUR MODE** repeatedly, the setting changes as follows.

AUTO: Normally select this mode. The colour system is automatically detected.

If “AUTO” does not work well, choose the other settings below.

NTSC3.58: To record the NTSC signals or playback an NTSC3.58 tape on an NTSC TV.

NTSC4.43: To record the NTSC signals or playback an NTSC4.43 tape on a PAL TV.

NTSC→PAL TV (ONLY FOR PLAYBACK): To playback an NTSC3.58 tape on a PAL TV.

PAL: To record PAL signals or playback a PAL TV.

MESECAM: To record SECAM signals or playback a MESECAM tape.

When playing back an NTSC tape with “AUTO” mode selected, the NTSC signal is converted to PAL signal and is played back.

Playback

1 On TV

1 Turn on the TV.

2 Select the video channel (or AV mode).

2 On VCR

Insert a cassette. The VCR turns on.

- If the record tab on a cassette is removed, playback will start automatically.
- If a cassette is already in the VCR, turn on the VCR.

3 Start Playback

Press **PLAY** ►.

To pause playback and view still picture, press **STILL/SLOW** ► (or **STILL/PAUSE** on the front panel).

Press **PLAY** ► to resume playback.

To rapidly locate a particular scene, press **FF** ►► or **REW** ◀◀ during playback. (No sound comes out.) Press **PLAY** ► to resume playback.

To stop playback, press **STOP** ■.

To rewind the tape, press **REW** ◀◀ when the tape is not running.

To fast forward the tape, press **FF** ►► when the tape is not running.

To eject the tape, press **▲ EJECT**.

To turn off the VCR, press **POWER**.

Basic Operations

Recording

When using this VCR, an index mark is always marked at the beginning of every recording. This index marks make it easier for you to search for the beginning of the recordings. See “Index Search” at page 9.

1 On TV

- 1 Turn on the TV.
- 2 Select the video channel (or AV mode).

2 On VCR

Insert a cassette with the record tab in place.

The VCR turns on.

To rewind the tape, press **REW** ◀◀.

To reset the time counter, press **CLEAR**.

3 Select Tape Speed

After pressing VCR, press **ALT/SPEED** until the desired tape speed (SP, LP or SLP) appears on the display.

SP, LP: For PAL signal.

SP, SLP: For NTSC signal.

4 Select a Channel

Press **CH** ▲ or ▼ or **Number** buttons to select the channel to record.

5 Start Recording

Press **REC/OTR** ●.

To pause recording

Press **STILL/SLOW** ► briefly. To resume recording, press the same button again.

To stop recording

Press **STOP** ■.

To watch another TV programme while recording

Select a different channel you want to watch on the TV.

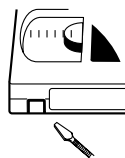
You can watch the programme of the selected channel on the TV, without affecting recording on the VCR.

- When a tape reaches its end during recording, the recording stops and ● blinks on the display window.

To prevent accidental erasure:

Break off the record tab with a screwdriver.

To record again, cover the hole with adhesive tape.



Special Effect Playbacks

Are you familiar with tape playback? If so, you are ready to enjoy the special effect playback features described below.

To skip playback for a certain period

Press **SKIP SEARCH** button 1 to 4 times during playback to search forward for 30 seconds by the time counter reading.

Each time you press the button, the search time increases as follows:

30→60→90→120 sec.

The VCR automatically resumes normal playback after searching for the specified period.

To view a still picture

Press **STILL/SLOW** ► (or **STILL/PAUSE** on the front panel) briefly during playback.

Playback is frozen and a still picture appears.

Press the **STILL/SLOW** ► button repeatedly to advance the still picture frame by frame.

To resume playback, press **PLAY** ►.

To view a slow motion picture

Press **STILL/SLOW** ► for more than 2 seconds during playback.

To decrease the slow motion speed, press **STILL/SLOW** –.

To increase the slow motion speed, press **STILL/SLOW** +.

To resume playback, press **PLAY** ►.





Notes:

- No sound comes out during special effect playbacks.
- If you keep viewing slow motion and still pictures for more than 5 minutes, the VCR automatically stops to protect the tape and video heads.
- During special effect playbacks, some noise bars will appear on the TV screen.

Advanced Operations

Automatic Operations

Eject cassette

You can eject the tape simply by pressing **EJECT**  (or **STOP/EJECT** / on the front panel) even while the VCR is turned off. When you press **EJECT** , the VCR automatically turns on, ejects the tape, then turns off.

Auto playback

When a tape is inserted, the VCR turns on. If the record tab is removed, playback begins.


Auto rewind

When a tape reaches its end during playback or fast forwarding, the VCR rewinds the tape and stops.

Memory rewind power off

When you press **POWER** during rewinding, the VCR turns off after rewinding is completed.

Repeat Playback

When you press and hold **PLAY**  for more than 5 seconds, you can play back the same tape repeatedly (100 times).

When the tape runs to its end, the VCR automatically rewinds the tape, and starts playback.



Tracking Adjustments

Auto tracking



Each time a tape is inserted, auto tracking starts working and continuously analyses the signal to adjust for optimum picture quality during playback. So, there is no need for you to minimize noises in most tapes during playback.

Manual tracking



• During normal playback:

If auto tracking cannot eliminate noises well during playback, press **CH**  or .

• During a slow motion picture:

Press **CH**  or  to minimize noises in the slow motion picture.





• During a still picture:

Press **CH**  or  to reduce jitter in the still picture.



To cancel manual tracking, stop the tape, eject the tape, then re-insert it.

Note:

*If you keep pressing **CH**  or  button, you might get "USE CLEANING CASSETTE" message on the screen. Please disregard this message and re-adjust the tracking. However, if the message appears automatically (without pressing **CH**  or ) , this indicates that your video heads are dirty.*

Index Search

You can locate an index marked at the beginning of each recording on a tape recorded on this VCR (or an indexed tape).

Press **▶▶** or **◀◀** repeatedly until the appropriate number is displayed on the TV screen before starting play.

Rapid forward or reverse search begins.

When it finds the designated index, playback starts automatically.

- Locate an index number by pressing the button repeatedly, indicating how many index marks ahead of or behind that recording you want is from the tape's current position.
- Up to ± 9 th index mark from the current position on the tape can be located.

Rec(ord) End Search

This function enables you to search forward to the next unrecorded portion of the tape (or to the point at which recording was stopped).

- 1 Press the **SKIP SEARCH/REC END** button when the tape is not running. The VCR begins fast forwarding or rewinding to find the blank portion or the recording end portion on the tape. **SEARCHING FOR REC END** will appear on the screen during the search.
- 2 The VCR automatically stop when the blank portion or the end of the recorded is reached. **REC END SEARCH COMPLETED** will appear on the screen briefly. The tape remaining tape time also appears on the display panel.

Child Lock

With this function, you can prevent the VCR operations from being misused.

To use Child Lock

When the VCR is turned on, press and hold **POWER** on the remote control for more than 10 seconds to turn off the VCR.

The "CL" appears blinking on the display.

While "CL" is on the display, you cannot turn on the VCR by pressing **POWER** on the VCR.

To cancel Child Lock

Press and hold **POWER** on the remote control for more than 10 seconds to turn on the VCR.

The "CL" disappears on the display and VCR is turned on.

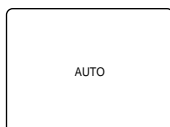
You can also cancel the child lock function by unplugging the AC power cord.

SmartPicture

You can make the picture softer or sharper or distinct the picture when playing back the tape. SmartPicture is set to AUTO when you receive the VCR.

1 Select SmartPicture Mode

- 1 Press VCR.
- 2 Press SMARTPICTURE button. The current setting will appear on the screen for about 5 seconds.
- 3 While the current setting appears, press the SMART-PICTURE button repeatedly, the setting changes as follows.



AUTO:

Normally select this mode.

DISTINCT:

Select this mode when you want the distinct picture. The picture detail is emphasized.

SOFT:

Select this mode when you want the soft picture. The signal noise of the picture is softened.

SHARP:

Select this mode when you want the sharp picture. The picture edge is emphasized.

Notes:

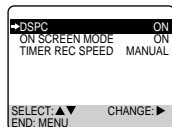
- It is recommended that the SmartPicture is set to "SOFT" if playback picture is noisy.
- When "DSPC" is set to "OFF", "AUTO" is switched to "NATURAL" automatically.

DSPC

The DSPC (Digital Studio Picture Control) system checks the condition of the tape in use during recording and playback, and compensates to provide the highest possible recording and playback pictures. Set the DSPC to "ON" or "OFF" on the VCR Set Up menu.

1 Select VCR Set Up Mode

- 1 Press VCR.
- 2 Press MENU.
- 3 Press PLAY ▲ or STOP ▼ to select "VCR SET UP" then press OK/STATUS.



2 Select DSPC

- 1 Press PLAY ▲ or STOP ▼ to select "DSPC".
- 2 Press FF ► to set "ON" or "OFF".

3 Finish Setting

Press MENU.

Once the "DSPC" mode is set to "ON", the DSPC system works for both recording & playback;

appears blinking on the display.

Notes:

- The DSPC system works for SP, LP and SLP modes only after a tape has been inserted and the Record mode is first initiated. Also, it works if the colour mode is changed. It does not work during recording.
- In the case of timer recording, the DSPC system works before recording is initiated.
- Once the cassette is ejected after recording, the DSPC data is cancelled. The next time the cassette is used for recording, DSPC is re-performed.
- When "DSPC" is displayed, the VCR does not start One Touch Recording.
- Since the DSPC system works before recording actually starts, there is a delay of approximately 7 seconds after REC/OTR ● is pressed. To make sure you record the desired scene or programme in its entirety, first perform the following steps:
 - 1) Press and hold STILL/SLOW ► (or PAUSE/STILL II on the front panel) and press REC/OTR ● to engage the RECORD PAUSE mode.
 - 2) Press REC/OTR ● again to start recording.
- If you want to bypass the DSPC system and begin recording immediately set "DSPC" to "OFF".
- The VCR adjusts the playback picture quality based on the quality of the tape in use.
- When watching a tape recorded with "DSPC" set to "ON", it is recommended that you leave DSPC to "ON" during playback as well.
- "DSPC" only appears at the beginning of automatic tracking. Even though it doesn't appear after that, the DSPC function is operative.

One Touch Recording (OTR)

The OTR function lets you quickly specify how long you want a recording to continue. You do not have to programme the timer.

1 On TV

- 1 Turn on the TV.
- 2 Select the video channel (or AV mode).

2 On VCR

Insert a cassette with the record tab in place.

The VCR turns on.

- If a cassette is already in the VCR, turn on the VCR.

3 Select Channel

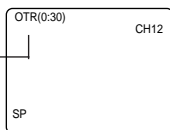
Press CH ▲ or ▼ or Number buttons to select the channel to record.

4 Start OTR

Press REC/OTR ● twice.

Recording starts immediately, and the (Record) indicator lights up and blinks on the display.

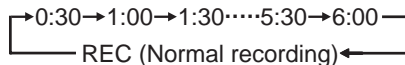
This indicates that the VCR will automatically shut off after 30 minutes of recording.



5 Select Recording Length

Press REC/OTR ● repeatedly until the desired recording length appears.

Each time you press the button, recording length increases in 30-minute intervals.



To check time remaining during an OTR

Press OK/STATUS.

To change the recording length during an OTR

Press REC/OTR ● repeatedly until the desired length appears.

To cancel an OTR

Press STOP ■ to stop recording before the preset recording length is reached.

If you want to cancel the OTR mode but continue recording, press REC/OTR ● several times until "OTR" changes to "REC" on the TV screen.

Notes:

- During recording, the displayed time counts down. When "0:00" is reached, recording stops and the VCR turns off automatically.
- If an OTR is engaged during pause, the displayed time counts down normally, but recording does not begin until you cancel the pause.

Using On-Screen Display

You can display the VCR operating status on the TV screen.

1 Select VCR Set Up Mode

- 1 Press VCR.
- 2 Press MENU.
- 3 Press PLAY ▲ or STOP ▼ to select "VCR SET UP" then press OK/STATUS.

2 Select On-Screen Mode

- 1 Press PLAY ▲ or STOP ▼ to select "ON SCREEN MODE".
- 2 Press FF ►. Each time you press the button, the setting changes.

ON:

When you press a tape running button (Stop, Play, etc.), the VCR status appears for 5 seconds.

COUNTER:

When you press a tape running button, the VCR operating status appears for 5 seconds. After 5 seconds, the VCR status disappears except the time counter.

OFF:

The VCR operating status does not appear even if you press a tape running button.

3 Finish Setting

Press MENU.

To display the VCR status on the TV screen manually, press OK/STATUS. The VCR status appears for about 5 seconds.

- If "ON SCREEN MODE" is set to "OFF," no VCR status appears though you press OK/STATUS.

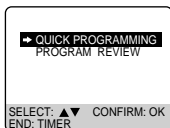
Timer Recording

To record while you're away, follow step 1 — 9 below. For each programme you set, the VCR will turn on, start recording, and turn off automatically. You can store up to 8 programmes.

FOR EACH STEP BELOW, YOU NEED TO FINISH WITHIN 60 SECONDS; OTHERWISE, PROGRAMMING WILL HAVE TO BE RESTARTED FROM STEP 1.

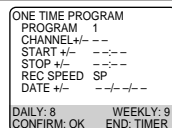
1 Select Timer Mode

- 1 Press VCR.
- 2 Press TIMER. The Timer Recording menu appears.



2 Select Programme mode

Press PLAY ▲ or STOP ▼ to select "QUICK PROGRAMMING", then press OK/STATUS. The Quick Programming menu appears.



- If you have already set 8 programmes, "ALL PROGRAMS IN USE" appears and goes back to the Timer Recording menu. If this happens, delete unwanted programmes. (P.14)

3 Select Channel

Press CH ▲ or ▼ to enter the TV channel.

- Holding down CH ▲ or ▼ rapidly scans through the channels.
- To record from external line input, press CH ▲ or ▼ until "A/V REAR" or "A/V FRONT" appears.

4 Select Start Time

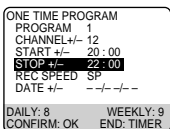
Press START + or - (Number button 1 or 4).

- Each time you press the button, the set time changes by 1-minute intervals. If you hold the button, the set time changes by 30-minute intervals.

5 Select Stop Time

Press STOP + or - (Number button 2 or 5).

- Each time you press the button, the set time changes by 1-minute intervals. If you hold the button, the set time changes by 30-minute intervals.



6 Select Tape Speed

Press ALT/SPEED.

- Each time you press the button, the tape speed alternates between SP, LP and SLP.
SP, LP: For PAL signal.
SP, SLP: For NTSC signal.

7 Select Start Date

Press DATE + or - (Number button 3 or 6).

- The year and day of the week are displayed automatically.

8 Confirm Programme

Press TIMER or OK/STATUS.

"PROGRAM WAS COMPLETED" appears on the TV screen.

After 5 seconds, the above message disappears, and the normal TV picture resumes. The ⊕ (Timer) indicator lights up on the display.

- If "PROGRAM NOT COMPLETED" appears, try again from step 1.
- If "PROGRAM NOT COMPLETED/PROGRAM OVERLAP" appears on the TV screen, the timer recording you just programmed overlaps another timer recording. (P.13)

If you want to store other programmes, repeat steps 1 to 8.

9 Finish Settings

Press POWER to turn off the VCR.

The VCR must be turned off for a timer recording to take place. If you forget to turn off the VCR, PLEASE TURN OFF VCR FOR TIMER RECORDING flashes on your TV screen two minutes before a timer recording starts. To remove the message, press the CLEAR button.

If you want to record the same programme daily, press DAILY (Number button 8) during step 3 through 7. (Press the button again to cancel.)

The VCR will record a TV programme every day (Monday through Friday) at the same time and length. (Daily Recording)

If you want to record the same programme weekly, press WEEKLY (Number button 9) during step 3 through 7. (Press the button again to cancel.)

The VCR will record a TV programme once a week at the same day, time and length. (Weekly Recording)

If you want to cancel the currently set programme, press CLEAR.

After a timer recording has taken place

Press POWER to turn on the VCR. You can operate your VCR normally.

To stop a started timer recording

Press POWER.

Recording stops and the VCR turns off.

If it is a Daily or Weekly Recording, future recordings will be carried out as programmed.

Turbo Timer

This function allows you to set the timer recording program without going through the regular set up with the on screen. The extent of programming is 24 hours from the current time.

- 1 Insert a tape into the VCR and press the "TURBO TIMER" button on the remote control. "STAr" (start time Prompt) and the current time appears alternately on the display.

STAr ↔ 8:30

- 2 To change the START time, press the PLAY ▲ or STOP ▼ button (if you press and hold either button, the time changes in 30-minutes increments), then press OK/STATUS.

8:30

Then, "STOP" (stop time prompt) and the set start time appears alternately on the display.

STOP ↔ 8:30

- 3 To change the STOP time, press the PLAY ▲ or STOP ▼ button (if you press and hold either button, the time changes in 30-minutes increments), then press OK/STATUS.

9:00

Channel number will appear on the display.

- 4 To change the CHANNEL number, press the PLAY ▲ or STOP ▼, then press OK/STATUS.

CH13

- 5 The data input will be memorized and the Turbo Timer mode will be finished so that normal display appears.

- 6 Turn off the VCR.

Notes:

- To exit Turbo Timer mode at any step, press the TURBO TIMER button.
- If "Err" appears on the display panel, all eight programs have been set and Turbo Timer will not proceed. To remove the error message, press the TURBO TIMER button again.
- Settings of Turbo Timer will appear on the display panel only and not on the screen.
- Programs Overlap Warning does not function with Turbo Timer.
- DAILY or WEEKLY programming are not available on Turbo Timer.

- Tape speed can be selected by pressing the ALT/SPEED button anytime during steps 1 through 4. The speed appears on the display for about 5 seconds.

When two programs overlap

The Program Review screen will appear with a magenta line blinking on the newly set timer recording while the other overlapped program blinking.

PR	CH	START	STOP	DATE
1	12	20:00	22:00	20/07
2	20	11:00	11:30	15/10
3	24	15:00	16:00	10/08
4	45	21:00	23:00	FRI
5				
6				
7				
8				

SELECT: ▲▼ CONFIRM: OK

- 1 Press PLAY ▲ or STOP ▼ to move the magenta line among the two overlapping programs.
 - 2 Press OK/STATUS to view the detail information of the program you want to change.
 - 3 Go to step 4 through 8 to modify the selected program. To cancel any timer recording, press CLEAR.
- If you do not modify the overlapping programs, the VCR will record the earlier program completely. Only the remaining part of the later program will be recorded.
 - If the START time for the two programs are the same, the lower program number will be recorded.

ONE TIME PROGRAM				
PROGRAM	1			
CHANNEL +/-	12			
START +/-	20:00			
STOP +/-	22:00			
REC SPEED	SP			
DATE +/-	20/07/01			
	FRIDAY			
ERASE: CLEAR				
NEXT: OK				
	END: TIMER			

Useful function for Timer Recording:

Auto Tape Speed

With this function activated, the VCR can change the tape speed and record the programme in LP or SLP mode if not enough tape remains for recording in SP mode.

- 1 Press VCR.
- 2 Press MENU.
- 3 Press PLAY ▲ or STOP ▼ to select "VCR SET UP" then press OK/STATUS.
- 4 Press PLAY ▲ or STOP ▼ to select "TIMER REC SPEED."
- 5 Press FF ►. Each time you press the button, the setting changes.

AUTO:

Select this to allow the VCR to change the tape speed from SP to LP (or SLP) when there is not enough tape length remaining.

MANUAL:

Select this not to allow the VCR to change the tape speed.

- 6 Press MENU to exit from the menu operations.

To check, edit or erase the programmes

- 1 Press VCR.
- 2 Press TIMER.
- 3 Press **PLAY ▲** or **STOP ▼** to select "PROGRAM REVIEW", then press **OK/STATUS**.
- 4 Press **OK/STATUS** repeatedly to view the more detailed programme information.
 - When you press the button for the first time, the detailed programme information for Programme 1 appears. By pressing this button repeatedly, you can review the detailed information of all other programmes.

5 If you want to change the programme setting shown on the TV screen, press the following buttons:

- CH ▲/▼** : Changes the channel.
START +/- : Changes the start time.
STOP +/- : Changes the stop time.
SPEED : Changes the tape speed.
DATE +/- : Changes the date.

If you want to erase the programme setting shown on the TV screen, press CLEAR. The detailed information of the next programme appears.

- 6 If necessary, press **TIMER** to exit from the menu operations.

Note:

- This function does not work for OTR (One Touch Recording).

How to see the programme list

- ① Programme numbers
- ② Preset channel numbers
- ③ Start time
- ④ Stop time
- ⑤ Start date

"D" stands for "DAILY," and

"W" stands for "WEEKLY."

- If the programme has worked once for the Daily recording, "DAILY" will be shown instead of the start date.
- If the programme has worked once for the Weekly recording, the day of the week (in this example, "MON") will be shown instead of the start date.

	①	②	③	④	⑤
	PR	CH	START	STOP	DATE
1	12	20:00	22:00	W10/06	
2	25	10:00	10:45	MON	
3	03	15:00	15:15	D16/10	
4	45	23:30	23:00	DAILY	
5					
6					
7					
8					
	NEXT: OK		END: TIMER		

Note:

- Even if a power failure occurs, the VCR keeps your timer programs. However, the clock time and other menu settings are lost if it lasts for more than 3 minutes. As a result, when the power is supplied again to this VCR after the power failure, set the clock time and turn off the VCR. Each timer program you have made will start unless its start time already passes.

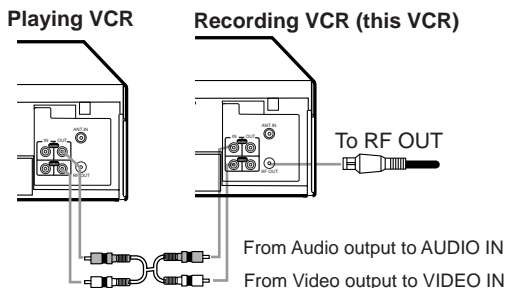
Tape Duplication

Dubbing from any VCR (or camcorder) to another is simple.

Explanations on this page uses this VCR as the recording VCR.

Refer also the manual supplied with the other VCR (for playback)

- 1 **Connect the recording VCR (this VCR) and the playing VCR.**
- 2 **Connect the recording VCR (this VCR) to the TV.**



- 1 Insert a source tape in the playing VCR and a blank tape in the recording VCR.

- If a tape without the record tab is inserted in the playing VCR, playback automatically starts. In this case, press the **STOP** button.

- 2 Turn the channel on the TV to your video channel.

- 3 Press **CH ▲** or **▼**, pointing the remote control at this VCR, to select the external line input.

- For rear jacks, select "L-1" on the display or "A/V IN" on the TV screen.
- For front jacks, select "L-F" on the display or "F-A/V IN" on the TV screen.

- 4 Press **ALT/SPEED**, pointing the remote control at this VCR, until the desired tape speed (SP, LP or SLP) appears on the display.

SP, LP: For PAL signal.
 SP, SLP: For NTSC signal.

- 5 Press the **PLAY ►** button on the playing VCR.

- 6 Press **REC/OTR ●** at this VCR.

Remember: press the buttons in steps 5 and 6 simultaneously to avoid missing any of the recording.

Operating TV

1 Set Code

- 1 Press and hold TV.
- 2 Press two Number buttons for the manufacturer's code number of your TV, referring to the table to the right.
 - For example, for 02, press 0 then 2.
- 3 Press STOP ■, then release TV.
 - The remote control can now operate the TV of the selected code.

2 Confirm Setting

Press POWER, pointing the remote control at the TV.
If the TV turns on or off, your setting is completed.
If not, repeat steps above, using another code.

- Notes:
- After replacing the batteries, you need to reset the manufacturer's code again.
 - The buttons you can use to operate your TV are explained on page 3.

TV Manufacturers' Codes	
PHILIPS	01, 02, 03
EMERSON	14
GOLDSTAR	04
GRUNDIG	24, 25
HITACHI	12
JVC	05
MITSUBISHI	13, 26
PANASONIC	07, 17, 19, 20
RCA	10
SAMSUNG	18
SANYO	11
SHARP	16
SONY	09
THOMSON	21, 22, 23
TOSHIBA	08
ZENITH	06, 15

Before Requesting Service

Power

No power.

Correction

- Check that the AC power cord is correctly connected to an AC outlet.
- Check that the VCR is turned on.

Recording & Playback

TV programme cannot be recorded.

Correction

- Check the connections between the VCR, the antenna and the TV.
- Make sure that the record tab on the back of the cassette is not removed.

Timer recording cannot be performed.

- Set the timer on-time and timer off-time correctly.
- Make sure that the VCR is turned off after setting is made.
- Timer recording may not be performed or stopped if a power interruption occurs before or during timer recording.

There is no playback picture, or the playback picture is noisy or contains streaks.

- Select your video channel correctly.
- Adjust the tracking slowly in either direction.

During a still or slow motion picture, the picture may contain some vertical jitter when using a TV which has an automatic vertical hold control.

- Try to change to another tape, you may not have this problem.

If the top of your playback picture waves back and forth excessively.

- Because the VCR playback signal is not as stable as an off-the-air TV signal, the top of your TV screen may be bent or unstable during playback. You may have better result if the A/V input is used.

During playback, "USE CLEANING CASSETTE" appears on the screen.

- The video heads are dirty. Use a head cleaner.

Before Requesting Service (continued)

Remote Control

The remote control cannot work.

Correction

- Aim the remote control directly at the remote sensor on the VCR.
- Avoid all obstacles which may interfere with the signal path.
- Inspect or replace the batteries.
- Make sure batteries are inserted correctly.

Miscellaneous

A cassette cannot be inserted.

The cassette does not eject.

The cassette ejects when you press REC/OTR ●.

Correction

- Insert the cassette with the window side up and the record tab facing you.
- Check that a cassette tape is not already inserted. Press **▲ EJECT**.
- Check that the AC power cord is correctly connected to an AC outlet.
- Check that the record tab on the back of the cassette is not removed.

Specifications

General

Mains voltage	AC 110 V – 240 V
Mains frequency	50 Hz/60 Hz
Power consumption	Approx. 14W
Ambient temperature	+5 °C to +40 °C
Relative humidity	10 % to 80 %
Dimensions (WxHxD)	Approx. 360 mm x 94 mm x 249 mm
Mass	Approx. 3.0 kg
Position for use	Horizontal
Video output channel	UHF E36 (adjustable between E28 — E60)
Possible number of TV channel	99
Number of pre-programmable memory blocks	8
Number of days in advance	365 or every day, or every week

Tuner

Video signal	B/G, D/K, I, SECAM K1
VHF	42 MHz — 175 MHz
VHF H	175 MHz — 470 MHz
UHF	470 MHz — 870 MHz
	CATV

Video

Input (VIDEO IN)	0.5 V(p-p) to 2.0 V(p-p), 75 ohms
Output (VIDEO OUT)	1.0 V(p-p) ±0.2 V(p-p), 75 ohms
Resolution	Better than 240 lines
Signal/noise ratio	Better than 43 dB

Audio

Input (AUDIO IN)	–8 dBs, 50 k ohms (0 dBs=0.775 Vrms)
Output (AUDIO OUT)	–8 dBs, 1 k ohms (0 dBs=0.775 Vrms)

Accessories supplied

Remote control unit
 RF coaxial cable
 Batteries – R6(SUM-3)/AA
 (only for checking operations)